

ANNUAL REPORT FOR 2007



**US 64 Bypass Mitigation Site
Tyrrell County
TIP No. R-2548E**



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SUMMARY

The US 64 Bypass Mitigation Site is located in Tyrrell County. The site was planted in December 2005 and was designed as mitigation for wetland impacts associated with roadway project R-2548.

The mitigation encompasses approximately 6.13 acres of wetland restoration. The restoration effort involved the removal of the existing roadbed to adjacent wetland elevation, undercutting approximately 6 inches of soil, and back filling with available material. The site was then planted and will be monitored to ensure that it meets the vegetation success criteria. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for five years.

There were 3 vegetation monitoring plots established throughout the 6.13 acre planting area. The 2007 vegetation monitoring of the site revealed an average tree density of 551 trees per acre. This average is well above the minimum success criteria of 320 trees per acre. NCDOT supplementally planted this site in February 2007.

NCDOT will continue vegetation monitoring at the US 64 Bypass Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The US 64 Bypass Mitigation Site is located at the existing US 64 roadbed in Tyrrell County just west of Columbia (Figure 1). The site consists of approximately 6.13 acres of mitigation for wetland impacts associated with project R-2548.

1.2 Purpose

In order for a mitigation site to be considered successful, a site must meet vegetation success criteria. This report details the vegetation monitoring in 2007 at the US 64 Bypass Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

| | |
|---------------|--------------------------------|
| December 2005 | Site planted |
| August 2006 | Vegetation Monitoring (1 year) |
| February 2007 | Site Supplementally Planted |
| August 2007 | Vegetation Monitoring (2 year) |

2.0 VEGETATION: US 64 BYPASS MITIGATION SITE (YEAR 2 MONITORING)

2.1 Success Criteria

Success Criteria states that the permittee must attain and document a minimum survival rate of 320 planted trees per acre surviving for the first three years, decreasing by 10 percent for years four and five (260 trees per acre minimum for year five).

2.2 Description of Species

The following wetland species were planted in the Wetland Restoration Area:

Nyssa sylvatica var. *biflora*, Swamp Blackgum

Taxodium distichum, Baldcypress

Quercus phellos, Willow Oak

Nyssa aquatica, Water Tupelo

Chamaecyparis thyoides, Atlantic White Cedar

Quercus lyrata, Overcup Oak

2.3 Results of Vegetation Monitoring

| Plot # | Swamp Blackgum | Baldcypress | Willow Oak | Water Tupelo | Atlantic White Cedar | Overcup Oak | Total (Year 2) | Total (at planting) | Density (Trees/Acre) |
|------------------------------|----------------|-------------|------------|--------------|----------------------|-------------|----------------|---------------------|----------------------|
| 1 | 6 | 7 | 4 | 5 | 4 | 15 | 41 | 42 | 664 |
| 2 | 7 | 9 | 1 | 10 | 2 | 7 | 36 | 50 | 490 |
| 3 | 8 | 13 | 4 | 7 | 1 | | 33 | 45 | 499 |
| Average Density (Trees/Acre) | | | | | | | | | 551 |

Site Notes: Vegetation plots 1 and 2 are 50 x 50 foot plots. Vegetation plot number 3 is 100 x 25 foot due to the location where the plot was set. The at-planting numbers changed from the 2006 at-planting counts due to the supplemental planting that took place in February 2007. The planted trees had heavy herbaceous competition throughout the site.

Other species noted include: fennel, *Juncus* sp., tearthumb, cattail, woolgrass, foxtail, cut grass, red maple, *Pluchea* sp., black willow, sweetgum, ragweed, and various grasses.

2.4 Conclusions

There were 3 vegetation monitoring plots established throughout the 6.13 acre planting area. The 2007 vegetation monitoring of the site revealed an average density of 551 trees per acre. This average is well above the minimum success criteria of 320 trees per acre for year two.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

The following report summarizes the monitoring activities that have occurred in the past year for the US 64 Bypass Mitigation Site. Monitoring activities in 2007 represent the second year of monitoring for the site. The site must demonstrate vegetation success for a minimum of five years or until the site is deemed successful.

There were 3 vegetation monitoring plots established throughout the 6.13 acre planting area. The 2007 vegetation monitoring of the site revealed an average density of 551 trees per acre. This average is well above the minimum success criteria of 320 trees per acre for year two. NCDOT supplementally planted this site in February 2007.

NCDOT will continue vegetation monitoring at the US 64 Bypass Mitigation Site.

PROJECT: 6.139006T



APPENDIX A

SITE PHOTOS

US 64 Bypass



Photo 1



Photo 2



Photo 3



Photo 4

US 64 Bypass Site
R-2548E
Tyrrell County

